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DEVICE FOR HIGH-FREQUENCY LOAD FEEDING IN THE REGION OF A HIGH---ETC(U)
MAR 79 S B VASSERMAN, V G VOTINTSEV
UNCLASSIFIED FTD-ID(RS)T-0375-79 NL

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DEVICE FOR HIGH-FREQUENCY LOAD FEEDING IN THE REGION OF A HIGH-VOLTAGE ELECTRODE OF A PULSE TRANSFORMER

By

S. B. Vasserman, V. G. Votintsev, B. G. Shklyayev

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EDITED TRANSLATION

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DEVICE FOR HIGH-FREQUENCY LOAD FEEDING IN THE REGION OF A HIGH-VOLTAGE ELECTRODE OF A PULSE TRANSFORMER

By: S. B. Vasserman, V. G. Votintsev,
B. G. Shklyayev

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PREPARED BY:

TRANSLATION DIVISION
FOREIGN TECHNOLOGY DIVISION
WP-AFB, OHIO.

U. S. BOARD ON GEOGRAPHIC NAMES TRANSLITERATION SYSTEM

Block	Italic	Transliteration	Block	Italic	Transliteration
А а	*А а*	A, a	Р р	*Р р*	R, r
Б б	*Б б*	B, b	С с	*С с*	S, s
В в	*В в*	V, v	Т т	*Т т*	T, t
Г г	*Г г*	G, g	У у	*У у*	U, u
Д д	*Д д*	D, d	Ф ф	*Ф ф*	F, f
Е е	*Е е*	Ye, ye; E, e*	Х х	*Х х*	Kh, kh
Ж ж	*Ж ж*	Zh, zh	Ц ц	*Ц ц*	Ts, ts
З з	*З з*	Z, z	Ч ч	*Ч ч*	Ch, ch
И и	*И и*	I, i	Ш ш	*Ш ш*	Sh, sh
Й й	*Й й*	Y, y	Щ щ	*Щ щ*	Shch, shch
К к	*К к*	K, k	Ъ ъ	*Ъ ъ*	"
Л л	*Л л*	L, l	Ы ы	*Ы ы*	Y, y
М м	*М м*	M, m	Ь ь	*Ь ь*	'
Н н	*Н н*	N, n	Э э	*Э э*	E, e
О о	*О о*	O, o	Ю ю	*Ю ю*	Yu, yu
П п	*П п*	P, p	Я я	*Я я*	Ya, ya

*ye initially, after vowels, and after ъ, ь; e elsewhere.
When written as ё in Russian, transliterate as yё or ё.

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	$\sinh^{-1}$
cos	cos	ch	cosh	arc ch	$\cosh^{-1}$
tg	tan	th	tanh	arc th	$\tanh^{-1}$
ctg	cot	cth	coth	arc cth	$\coth^{-1}$
sec	sec	sch	sech	arc sch	sech^{-1}
cosec	csc	csch	csch	arc csch	csch^{-1}

Russian	English
rot	curl
lg	log

DEVICE FOR HIGH-FREQUENCY LOAD FEEDING IN THE REGION OF A HIGH-VOLTAGE ELECTRODE OF A PULSE TRANSFORMER

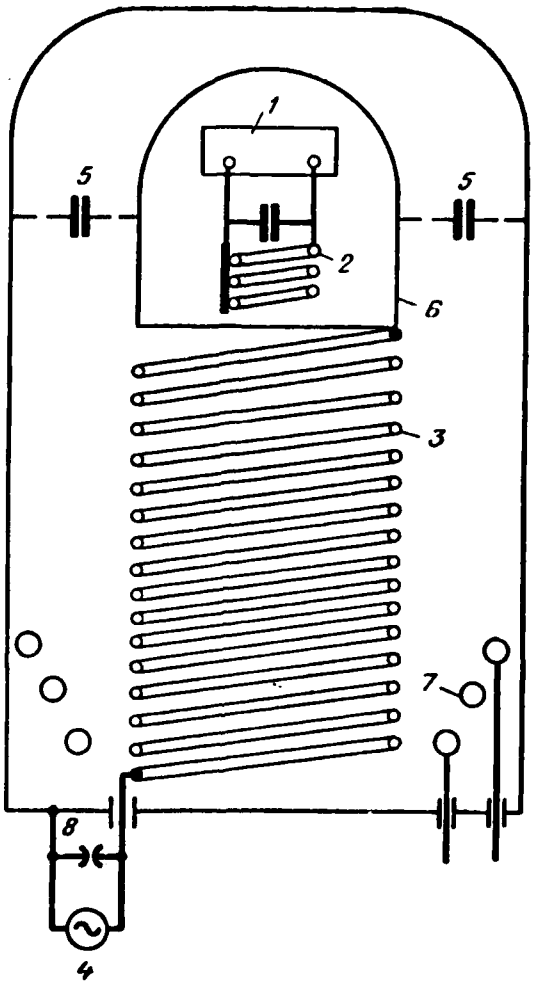
S. B. Vasserman, V. G. Votintsev, B. G. Shklyayev

Devices with high-frequency load feeding of a high-voltage pulse system are known; they consist of connected circuits, one of which, feeding the load, is found in the region of high potential, and the other, an exciter, in the region of ground potential.

A deficiency of the known devices is the necessity to use a special exciting circuit which, on one hand, must have a sufficient connection with the feeding circuit and, on the other hand it must be insulated from the feeding circuit at full voltage.

The goal of the invention is to simplify the device of high-frequency feed with the aid of a system of connected circuits. This goal is achieved by the fact that, instead of a special exciting circuit, we use, directly, a high-voltage transformer coil which forms, together with the capacitance of the high-voltage electrode, a series circuit on the ground.

The figure reflects the described electrical-feed device.



The load 1, found in the region of a high-voltage electrode, is connected up to the feeding circuit 2, positioned in the same region. The induction coil of the feeding circuit is positioned in such a manner so that it has an inductive connection with the high-voltage pulse transformer coil 3. An alternator 4 is contained between the beginning of the high-voltage coil and the transformer's casing.

The proposed device operates in the following manner. The alternator 4 produces oscillations in the series circuit, formed by the high-voltage coil 3 and the capacitance 5 of the high-voltage electrode 6 which, in turn, excite the oscillations in the feeding circuit 2. The most effective transmission of energy from the alternator 4 to the load 1 occurs if the fundamental frequencies of the exciting and feeding circuits are equal and the alternator 4 operates at this frequency.

At the moment of the operating pulse of the transformer, when a pulse of voltage proceeds to its primary coil 7, to the high-voltage coil there passes a pulse of current which can be connected up through the alternator 4; if this is undesired, then through other elements switched in parallel to the alternator 4, for example, through the discharger 8.

Subject of the Invention

The device for high-frequency feed of load found in the region of a high-voltage electrode of a pulse transformer with a high-voltage coil, which contains a casing, a feeding circuit, and an exciting oscillating circuit with a series-switched high-frequency generator, is distinguished by the fact that with the purpose of simplifying the structure, we use, as the induction exciting circuit, a high-voltage coil of a pulse transformer, switched up with the beginning to the indicated generator, the second terminal of which is connected with the casing, forming capacitance with the high-voltage electrode.

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